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doi: 10.1136/sti.2004.011627

Accepted for publication 8 June 2004

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Atypical presentation of lobar nephronia in an adult co-infected with HIV and hepatitis C

Lobar nephronia or acute focal bacterial nephritis is an acute, non-suppurative, focal, renal infection.¹ It usually presents with fevers and flank pain. In the general population it is well described in children. We report an adult co-infected with HIV and hepatitis C, who presented with meningism and bilateral lobar nephronia.

Case report

A 37 year old man was admitted with a 4 day history of headaches, fevers, and vomiting with a 2 week background of dysuria. On presentation with a seroconversion illness 3 years previously he received combination antiretroviral therapy (ARV) for 9 months. Four months before the current admission ARV was re-introduced for symptomatic HIV infection. The most recent CD4 count was 250 cells/ $\times 10^6/l$, and HIV viral load was 107 000 copies/ml. Hepatitis C infection had recently been diagnosed and the patient was receiving weekly interferon alfa. His symptoms began the day after the fifth injection. On examination he was pyrexial, temperature 39°C, had meningism and abdominal tenderness in both right upper quadrant and left iliac fossa. Investigations showed C reactive

protein (CRP) 265 (normal = 0–4) IU/l, neutrophils $11 \times 10^9/l$, and normal urea and creatinine. Cranial computed tomography (CT) and cerebrospinal fluid analysis were normal. Urinalysis showed protein++ and blood+; urine culture was negative. Blood cultures grew *Escherichia coli*, which was treated with cefuroxime. Abdominal CT scan showed multiple low attenuation solid lesions with peripheral enhancement in both kidneys (fig 1A). The patient's symptoms rapidly settled. He completed a 4 week course of oral cephadroxyll. As *E coli* was cultured from blood and a repeat scan after completion of treatment was normal (fig 1B) the renal CT appearances were ascribed to lobar nephronia.

The CT appearance of lobar nephronia is of either a single, or more uncommonly, multiple lesions in either one or both kidneys. The appearances are of either inflammatory (hypodense wedge-shaped) areas, or mass-like lesions.^{2–3} A radiological differential diagnosis for single lesions includes intrarenal abscess, renal carcinoma, and simple cyst. For multiple lesions, it includes microabscesses, lymphoma, hamartomata, and metastases.

The clinical severity lies between that of pyelonephritis and renal abscess and it is important to differentiate lobar nephronia from these pathologies as management differs both in duration of antibiotics and the need for drainage of renal abscess. Histologically, the conditions differ. By contrast with the tissue necrosis and liquefaction seen in an abscess, in lobar nephronia there is localised hyperaemia, interstitial oedema, and leucocyte infiltration. These features are less severe and are diffuse in acute pyelonephritis.² *E coli* is the most common causative organism. Other pathogens include *Proteus mirabilis*, *Staphylococcus aureus*, *Klebsiella* spp, *Pseudomonas aeruginosa*, and enterococci. Antibiotics are given for up to 6 weeks and relapse may occur.

The majority of reports of lobar nephronia in the general population are in children, probably reflecting the higher incidence of urinary tract infections in children. Although lobar nephronia has been described previously in adult HIV infected patients,⁴ our patient had an unusual presentation with meningism. Response to antibiotics was good and it is unclear to what extent immunosuppression due to HIV or hepatitis C infection, or interferon alfa may have contributed to the development of lobar nephronia. This case describes an uncommon presentation of

renal infection in HIV infected adults and highlights the need to exclude differential diagnoses, especially lymphoma and metastases.

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doi: 10.1136/sti.2004.011759

Accepted for publication 10 June 2004

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Molluscum contagiosum presenting as penile horn in an HIV positive patient

Dermatologists have the advantage of visualising the skin lesions and making the diagnosis. In immunocompetent patients most of the skin conditions have the characteristic clinical presentation and hence the diagnosis is made clinically by good visual impression. But the human immunodeficiency virus (HIV) has taken away this advantage. Owing to its profound effect on the immune system, the natural course and clinical features of most of the dermatological diseases have been altered. In this report we describe the unusual presentation of molluscum contagiosum as penile horn, in an HIV positive patient.

Case report

A 34 year old man presented with asymptomatic rapidly enlarging papular lesions on the penis and scrotum present for the past 6 months. He also had a significant weight loss and loss of appetite for the past month. On examination he was emaciated and had yellowish greasy scaling on the scalp, eyebrows, nasolabial folds, and chest. Examination of the lymphoreticular system did not reveal any abnormality. Genital examination revealed three well defined flesh coloured papules, two on the mucosal aspect on prepuceal skin (one each at the 10 o'clock and 2 o'clock position) and the other one on scrotal skin near the root of the penis (fig 1). The size varied from 3 mm to 7 mm. All the lesions were non-tender and had keratotic projection in the centre, the height of which was more than its diameter. The scrotal lesion was fleshy and had a verrucous surface, and on pressing the lesion cheesy material could be expressed. Routine haemogram, liver, and renal function tests were within normal limits. Stool examination showed occasional *Cryptosporidium*. ELISA for HIV was positive. The CD4 count was just



Figure 1 (A) CT scan of the abdomen showing multiple low attenuation solid lesions (arrows) with enhancing rims in both kidneys. There is associated splenomegaly, but no intra-abdominal lymphadenopathy and no ascites. (B) CT scan on completion of treatment. The appearance of the kidneys is normal.



Figure 1 Showing penile horn.

$38 \times 10^6/l$ and lipid profile was within normal limits. Histopathological examination showed an acanthotic epidermis with craters filled with eosinophilic hyaline intracytoplasmic inclusion bodies, which are the hallmarks of molluscum contagiosum. After doing other baseline investigations the patient was started on HAART (stavudine + lamivudine + nevirapine) and was also started on prophylactic drugs for *Pneumocystis carinii* pneumonia and *Mycobacterium avium* complex infection in the recommended dosages. The molluscum lesions were treated with electrocautery.

Comment

Cutaneous horn (cornu cutaneum) is a clinical entity used for protruding dense, white or yellowish, short or curved hyperkeratotic structure resembling the horn of an animal. This term was proposed for lesions in which the height of the keratotic mass amounts to at least half of its diameter.¹ It is an uncommon lesion which usually occurs over the exposed parts of the skin.² It can develop over a wide array of benign, precancerous and malignant lesions.³ The occurrence of horn over the penis was first reported in 1827.² Cutaneous horn of the penis is a rare condition with less than 100 cases reported in the world.³ The various predisposing factors for the development of penile horn are chronic prepuccial inflammation, phimotic foreskin, trauma, poor hygiene, relapsing balanoposthitis, viral infection, and tumour, especially squamous cell carcinoma.³ Recently, verrucous carcinoma presenting as penile horn has been reported.²

Among the viral infections, human papillomavirus is commonly implicated. Molluscum contagiosum presenting as penile horn even in HIV infection is extremely rare. So far only one case has been reported in the literature.⁴ To the best of our knowledge our patient is the second report in the literature.

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doi: 10.1136/sti.2004.010686

Accepted for publication 21 June 2004

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Contraception's proved potential to fight HIV

Mitchell and Stephens¹ bring attention to an issue we believe warrants much more emphasis, contraception for HIV infected women. A World Health Organization meeting identified prevention of unintended pregnancies to HIV infected women as a key strategy in preventing mother to child transmission (MTCT).² To date, three different models have shown the potential impact of family planning services on preventing HIV sequelae. Firstly, a simulation model demonstrated that just moderate reductions in unintended pregnancies to HIV infected women would yield equivalent reductions in infant HIV infections as nevirapine for pregnant, HIV infected women.³ Secondly, another model showed adding family planning to MTCT programmes produced major reductions in infant HIV infections and orphans with this strategy.⁴ Finally, a third model found that increasing contraceptive use among non-users of contraception who do not want to get pregnant is at least as cost effective as an equivalent investment in prenatal care programmes that provide and promote nevirapine to HIV infected mothers.⁵

To strengthen the case for contraception, we underscore the contribution family planning programmes are currently making to prevent infant HIV infections. Take sub-Saharan Africa where the HIV epidemic has hit hardest and the impact of contraceptive use in averting HIV positive births is greatest. In 2002, 13% of married African women aged 15–49 used modern methods of family planning: pill 4%, intrauterine device 1%, injection 4%, condom 1%, female sterilisation 2%, and other (for example, implants) 1%.⁶ Taking into account contraceptive failure rates,⁷ pregnancies averted are calculated by subtracting the number of pregnancies occurring among current users of modern contraceptives and the number that would occur if they used no method; for no method use, a conservative initial annual pregnancy rate of 40% was assumed.⁸

Given the 7.8 million births prevented by contraceptive use in sub-Saharan Africa in 2002 and an HIV prevalence of 7.4%,⁹ current contraceptive use in sub-Saharan Africa prevents an estimated 577 200 unplanned births to HIV infected mothers. Assuming a 30% vertical transmission rate in the absence of antiretroviral prophylaxis, we estimate that current contraceptive use prevents over 173 000 unintended HIV infected infants each year in sub-Saharan Africa, or 474 HIV infected infants per day. Current coverage of MTCT programmes would have a minimal effect on this estimated number of infant HIV infections since the weighted coverage of MTCT programmes for Africa is 5%,¹⁰ and less than one sixth of HIV positive women with access to MTCT programmes take antiretrovirals.

Approximately 640 000 children were newly infected with HIV in sub-Saharan Africa during 2003.⁹ Without any contraceptive use, this number would be 813 000 children. Thus, current contraceptive use is already averting approximately 22% HIV positive births annually. However, given the relatively low contraceptive prevalence in sub-Saharan Africa, increasing contraceptive use has great potential for additional impact in averting HIV positive births. The proportion of unintended births is 25% in sub-Saharan Africa¹¹; and assuming that 25% of HIV positive births are also unintended, the potential for contraception to avert even more HIV infections is profound—an addition of over 160 000 HIV positive births averted annually.

As resources are rapidly shifting to focus on providing antiretroviral therapy for HIV infected people, the negative consequences associated with unintended childbearing are likely to worsen for women if funding for contraception does not keep pace with increasing demand.^{12–13} Across all developing countries, current family planning spending levels are estimated to prevent 187 million unintended pregnancies.⁵ In turn, more than 100 million induced abortions are prevented annually and 60 million unplanned births are avoided. We already know that contraceptive use has numerous health benefits for women and families; our calculations suggest that contraceptive use to prevent unintended pregnancies can also have a significant effect on reducing infant HIV infections. We urge funders to refocus on family planning, not only to prevent unintended pregnancies but also HIV infections.

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doi: 10.1136/sti.2004.012013

Accepted for publication 23 June 2004

Support for this study was provided by Family Health International (FHI) with funds from US Agency for International Development (USAID), Cooperative Agreement No CCP-A-00-95-00022-02, although the views expressed in this article do not necessarily reflect those of FHI or USAID.

Competing interest: none declared.

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